

ED 027 954

By-Smith, William F.

[Achievement Test Correlation Study: Survey of 40 Children.]

Chattanooga Public Schools, Tenn.

Pub Date Dec 68

Note-30p.

EDRS Price MF-\$0.25 HC-\$1.60

Descriptors-Correlation, Culturally Disadvantaged, Family Background, Family Environment, Grade 1, Intellectual Development, Intelligence Quotient, Interviews, Physical Handicaps, *Profile Evaluation, *Student Characteristics, *Surveys

Identifiers-California Achievement Test, California Test Of Mental Maturity

A comprehensive profile of 40 Title I children from a Chattanooga school was obtained by parent and child interviews. The profile was part of a clinical evaluation in the "East Fifth Street Middle School Special Study." Although some findings were unique for each child, some occurred in the history of several children. Generally, the Title I children lacked previous group experiences; that is, at the time they entered public school, they had not participated in kindergarten, nursery school, or any other preschool program. Many of the children had physical or emotional problems. The children tended to live in marginal or substandard housing in rapidly deteriorating neighborhoods. The measured intelligence of the children was below average, and their school performance was poor. The family relationships of the children were disrupted by poverty, lack of education of parents, and broken-home situations. It was concluded, however, that such pupils can be marginal achievers if given adequate counseling, experiences, and training. An appendix reports the results of a Title I survey, an achievement test correlation study. (WD)

Chattanooga, Tenn.

SURVEY OF 40
CHILDREN (Title
Supplied)

by: William F. Smith

As a part of the clinical evaluation in the East Fifth Street

Middle School Special Study, the family of each of the forty pupils was interviewed by a school social worker. Included in a written report of this interview is a detailed history of the child. Base-line data relative to the participants' California Tests of Mental Maturity and California Achievement Tests were included, but the most significant part of this report was the section relative to the youngster's family environment. Some factors are unique for each child, but there are some relevant factors which appear in reports on several pupils in the study.

Among those factors which tend to profile the Title I child included in this study is a general lack of previous group experiences at the time of entry into the public schools. The preponderance of students included in the sample have not participated in kindergarten, nursery school, or other organized group activities. Another thing which identifies this pupil and which is significant is that many of these pupils have some kind of physical problem or disability. A total of sixty-one defects were reported for the total group; some youngsters had as many as four defects and only nine were reported healthy - no defects. This limitation may have been an asthmatic condition limiting a youngster's participation in some organized activities, or a serious congenital problem relative to sight, hearing, or walking. A large percentage of participants in the sample group have been hospitalized

PS001604

or have had a serious illness. It is apparent from social worker reports that this child is often the only child in the family with a known defect.

Other relevant factors which emerged from the social workers' studies are:

- 1) A significant number of the youngsters live in marginal or substandard housing.
- 2) Many families of youngsters in the study live in neighborhoods which are rapidly deteriorating.
- 3) Little effort is expended toward building lawns, planting shrubbery, working with flowers or producing a physical environment which is both attractive and inspiring to the youngster.

If the group of pupils were classified according to any one socio-economic scale, it would appear that the highest position which could be expected would be the upper-lower category. Other problems prevalent among these youngsters include lack of interest in school, bad dispositions, restlessness, inattention, and short attention spans.

The participants in this study were referred to a team of child psychologists for evaluation. Such instruments as the Bender-Gestalt Visual Motor Test, House-Tree-Person Test, Wechsler Intelligence Scale for Children, Sentence Completion Test, and Rorschach Test were used by the psychologists in their examination.

Based on the results of these sessions of psychodiagnostic testing and personal interviews, a series of factors emerged which are expressive of Title I pupils. There was a general statement from

most of the psychologists' reports supporting a need for instructional program opportunities in remedial reading and/or supplementary tutoring in subject areas. There were several indications of a need for providing opportunities for appropriate vocational counseling and training.

Special counseling or psychotherapy was recommended for several of the youngsters in the study. This special help was aimed at improvement of self concept or assistance in bringing an end to disturbed behavior on the part of some pupils. An interesting and important note in many of the reports was the expression of a need for parental counseling as a part of the problem solution for the youngster. Some of the youngsters were perceived as emotionally disturbed children, and some were suspected of having a neurological impairment. It was recommended that some pupils be considered for placement in classes for emotionally disturbed children.

A specific comment relative to the need for special counseling or therapy was: "Only long-term psychological treatment might be successful in alleviating this patient's basic difficulty in role identification; the role identification problem is reflected by his underachievement in school." Another comment was, "Patient should be continued in a regular academic program and psychological treatment provided for the patient and counseling for his parents."

Most of the patients, when tested by the psychologists, had verbal-scale quotients, performance-scale quotients, and full-scale

quotients on the WISC, indicating a functional level of mental abilities ranging from "dull normal" to "retarded." Few had IQ scores in the "average" range. Detailed information in IQ measures will be provided in a later section of the report. These scores indicate that even though some degree of success could be realized by most of the youngsters at East Fifth Street Middle School academic expectations for many of them would have to be, at best, marginal.

Other items profiling the pupils came from their individual reports. While each item does not include each of the persons, the frequency of occurrence is such that it has merit for consideration.

Statements that the pupils exhibit immature behavior throughout the report, as do indications of general negative feelings toward school and learning. Evidences of poor relationships with teachers are mentioned as are indications of resentment and/or fear toward authority figures. Other specific instances occurring with less frequency include expressions of fear of failure, distrust of other children, and an unreasonably high level of aspiration based on current and potential achievement.

Many of the youngsters are thought to be suffering from the effects of cultural deprivation and a lack of intellectual stimulation in the home. As a part of the over-all study of the sample youngsters, certain data of a demographic nature were gathered. When this data was examined, another facet of the profile of the Title I pupil can be seen. These data are presented in six areas. These are family status, educational level of parents, physical environment, emotional factors, cultural factors, and educational factors.

When family status data is examined, it is easily seen that the majority (80.0 per cent) of the youngsters live in households in which the parents do not live together. Divorced or separated parents were reported by 37.5 per cent of the sample and 30 per cent reported living with extended families. These data are included in Table 1. More than 60.0 per cent of the children live in households of more than eight persons. (See Table II) As has been noted, most of the housing for these persons is marginal or substandard.

Only 15.0 per cent of the mothers and 7.5 per cent of the fathers are reported as being high school graduates. The largest percentage (22.5) of the fathers have only an elementary school education. As can be seen in Table III, the educational level for mothers is a great deal higher than for fathers. More than three of every four youngsters (77.5 per cent) live in substandard housing, and 55.0 per cent report marginal financial subsistence (\$3,000 or less in annual income). The families are rather mobile, with approximately 40 per cent having made three or more moves in the past seven years. (See Table IV).

There is a definite lack of family recreation, opportunity for travel, and availability of books and magazines for these youngsters. As can be seen in Table V, 90.0 per cent report a lack of travel opportunity; 75.0 per cent, a lack of family recreation; and 72.5 per cent, a lack of books and magazines. Television and radio are available to most of the youngsters. Instances of physical and mental illness

PS001604

TABLE I

**FAMILY STATUS
EAST FIFTH STREET MIDDLE SCHOOL
SPECIAL STUDY PARTICIPANTS**

Status Item	Response Percentage	
	NO	YES
Parents Deceased	82.50	17.50
Parents Together	80.00	20.00
Parents Divorced or Separated	62.50	37.50
Unwed Mother	85.00	15.00
Substitute Spouse	85.00	15.00
Guardians	87.50	12.50
Extended Family	70.00	30.00

PS001604

TABLE II

NUMBER IN HOUSEHOLD
EAST FIFTH STREET MIDDLE SCHOOL
SPECIAL STUDY PARTICIPANTS

Number	Response Percentage
0	5.00
1	---
2	---
3	5.00
4	15.00
5	7.50
6	32.50
7	15.00
8	2.50
9	5.00
10	7.50
11	5.00

TABLE III

EDUCATIONAL LEVEL OF PARENTS
EAST FIFTH STREET MIDDLE SCHOOL
SPECIAL STUDY PARTICIPANTS

Parent or Guardian	Response Percentage					
	Illiterate	Elementary	Jr. High	High School	High School Graduate	College
Father	5.00	22.50	5.00	7.50	7.50	2.50
Mother	--	2.50	22.50	35.00	15.00	--
Grandfather	--	--	2.50	--	--	--
Sp. Sub.	--	--	--	--	2.50	--
Stepfather	--	--	--	2.50	--	--
Grandparent	--	2.50	2.50	2.50	--	--
Mother & Father	--	2.50	10.00	2.50	2.50	--

TABLE IV
MOVES IN PAST SEVEN YEARS
EAST FIFTH STREET MIDDLE SCHOOL
SPECIAL STUDY PARTICIPANTS

Number of Moves	Response Percentage
0	2.50
1	27.50
2	32.50
3	10.00
4	17.50
5	5.00
6	2.50
7	--
8	2.50

TABLE V
CULTURAL FACTORS
EAST FIFTH STREET MIDDLE SCHOOL
SPECIAL STUDY PARTICIPANTS

Factor	Response in Percentage	
	NO	YES
Lack of Books	27.50	72.50
Lack of Magazines	27.50	72.50
Lack of Television	97.50	2.50
Lack of Radios	80.00	20.00
Lack of Travel	10.00	90.00
Lack of Family Recreation	25.00	75.00

TABLE VI
EMOTIONAL FACTORS
EAST FIFTH STREET MIDDLE SCHOOL
SPECIAL STUDY PARTICIPANTS

Factor	Response in Percentage	
	NO	YES
Parental Conflict	87.50	12.50
Remarriage	90.00	10.00
Desertion	85.00	15.00
Death	97.50	2.50
Physical and Mental Illness	55.00	45.00

TABLE VII

INTELLIGENCE QUOTIENT
EAST FIFTH STREET MIDDLE SCHOOL
SPECIAL STUDY PARTICIPANTS

SCORE RANGE	LANGUAGE	RESPONSE PERCENTAGE NON-LANGUAGE	TOTAL
51 - 60		5.1	2.5
61 - 70	15.4	11.2	10.0
71 - 80	41.0	20.5	45.0
81 - 90	35.8	36.8	30.0
91 - up	7.8	26.4	12.5

were reported by 45.0 per cent of the youngsters. Only 12.5 per cent reported instances of parental conflict, and 15.0 per cent reported desertion. These data are presented in Table VI.

The mean Language IQ was 70.2 with a standard deviation of 26.5, while the Non-Language IQ mean was 70.1 with a standard deviation of 29.3. The Total IQ mean was 72.4 with a standard deviation of 24.7. If a mean IQ of 100 can be classed as "average," then it is apparent that the "average" Title I child is some 28 points below an acceptable "average."

Data showing the distribution of the IQ scores are shown in Table VII. This table presents data for the Language Score, the Non-Language Score, and the Total Score.

Reading Vocabulary scores average 2.9, and the average for Reading Comprehension is 3.5. The mean score for Arithmetic Reasoning scores is 4.1, and Arithmetic Fundamentals is 4.2. Mechanics of English average score is 3.8, and the average for the Spelling scores is 3.1.

Since reading ability is such an integral part of the success or failure of students, a separate study was conducted in this area. While an exhaustive study was made and a report is available to interested persons, a few of the results seem to be of general importance.

It was found that thirty of the forty pupils tested attained an instructional reading level two or more years below their present capacity levels.

The results of an informal reading inventory administered by local system personnel to the participants was studied and significant findings are shown below.

Taking comprehension and word recognition into consideration as separate items, it was found that deficient word recognition skills limited the pupil's level of reading more often than his ability to comprehend that which was read.

1. Twenty-two students, according to the criteria, attained a higher level of achievement in comprehension than in word recognition.
2. Thirteen students attained the same level of achievement in both word recognition and comprehension.
3. Five students attained a higher level at achievement in word recognition than in comprehension.

In summary, it is suggested that insufficient classroom experiences in auditory discrimination, word recognition techniques, and response to questions requiring evaluative rather than literal comprehension have contributed to the reading retardation of the 110 East Fifth Street students who were given the Informal Reading Inventory. It is suggested that more experience be given in these areas and that the students be given many opportunities to discuss and evaluate that which they have read or that which has been read to them. Most of the students tested were able to think critically when they were lead to do so.

There is always a concern that students of the cultural background of these youngsters be given reading material appropriate to their area of knowledge. This applies to the ability to use context clues and known sight words which may not be possible when certain material is selected.

While attendance at school is not a guarantee of success, lack of attendance for marginal students is generally harmful to overall academic success. Many of the pupils in this sample missed 17 days or more in the 175-day school year.

In summary, the average youngster in the sample entered public school with little or no group experiences, with undesirable family backgrounds, and often with physical handicaps. Measured intelligence is below average, and performance through early elementary grades is poor. Many emotional problems are present. In spite of these factors, such pupils can be marginal achievers if given adequate counseling, experiences, and training.

Summary of Title I Survey - Achievement Test Correlation Study

As a part of the pupil evaluation program in the East Fifth Street Middle School, selected intelligence and achievement variables were correlated using the Pearson Product Moment Correlation technique. The intelligence variables chosen were Language IQ, Non-Language IQ, and Total IQ. Achievement variables reported in terms of Obtained Grade Placement (OGP) were Reading Vocabulary, Reading Comprehension, Arithmetic Reasoning, Arithmetic Fundamentals, Mechanics of English, and Spelling. All variables used in the study are included in the California Test of Mental Maturity or the California Achievement Test.

It has been established that the pupils in this sample entered the public schools with little or no group experience, with an undesirable family background, and often with physical handicaps. Measured intelligence is below average and performance through early elementary grades is poor. Because of this academic problem the results of the correlations run between pairs of the previously defined variables are important.

Within the area defined by the selected intelligence scores, Language IQ and Non-Language IQ correlate at .37 while Language IQ and Non-Language IQ correlate with Total IQ at .80 and .85 respectively. As can be noted from the table, Reading, English, and Spelling variables correlate well with each other while Arithmetic variables correlate rather well with reading achievement variables. These data are shown in Table I.

The important fact shown by these correlations is that the Language IQ measure fails to show a high positive correlation with measures of Reading Comprehension or Reading Vocabulary. As shown in the table, Language IQ and Reading Comprehension correlate at $-.20$. Total IQ correlates with Reading Vocabulary at .15 and with Reading Comprehension at $-.17$. Language IQ correlates with

Mechanics of English at .10 and Total IQ with Mechanics of English at .10 and Total IQ with Mechanics of English at .00.

It is expected that a high positive correlation should exist between measures of language intelligence and measures of reading achievement. Studies by Strong,¹ Wheeler and Wheeler,² and Karlsen³ indicate that a high positive correlation is the expected trend. From other correlations in the set there is every indication that the results are valid and not a chance event. For example, any achievement test, regardless of the academic area it is designed to measure, is a reading test if either the instructions or the questions or both are written and have to be read by the pupil. As such, all achievement tests contain a constant reading error. The mathematics achievement measure for this group of pupils correlates poorly with Language IQ. Arithmetic Reasoning correlates at $-.14$ with Language IQ and Total IQ correlates with Arithmetic Reasoning and Arithmetic Fundamentals at $-.19$ and $-.02$ respectively.

Grade Level Analyses

To examine the correlation pattern in other schools in the Chattanooga Public School System, measures of intelligence and achievement were gathered for pupils throughout the system. The California Tests were selected as instruments. Breakdowns were made on grade, California Test of Mental Maturity (CTMM) level and California Achievement Test (CAT) level. A random sample was selected from each group and Pearson Product Moment Correlations were computed. A sample of fifty was selected from each group unless the size of the group was less than fifty. In that case the entire group was used as the sample. With this categorization a simple comparison can be made between the correlation of variables for the forty pupils in the East Fifth Street Middle School Special Study and the pupils in other schools.

Pupils in the group of schools (Woodmore, Normal Park, Cedar Hill, Howard) having grade 5.1, CTMM Level -2, and CAT Level -Elm,designators, produced a correlation between Language IQ and Reading Comprehension OGP of .85 and between Language IQ and Reading Vocabulary of .84. The correlations between Language IQ and Arithmetic Reasoning and Fundamentals are .81 and .62 respectively. These data are found in Table II. Corresponding correlations for schools (Avondale, Orchard Knob) designated by grade 5.2, CTMM level 2, and CAT level Elm. are .62, .66, .55 and .39. These data are presented in Table III.

For those five elementary schools (Woodmore, Normal Park, Howard, Trotter, Cedar Hill) designated as grade 6.1, CTMM level 2, and CAT level -Elm; results are .88, .91, and .80 and .77 for the comparisons named above. These data are found in Table IV. Table V shows data for those two elementary schools (Cedar Hill, Trotter) designated by grade 6.1, CTMM level 2, and CAT level -JH. The correlation between Language IQ and the four other variables are .77, .78, .50, and -.07 respectively.

Schools (Avondale, Orchard Knob) with grade level 6.2, CTMM level 2, and CAT level -Elm, show correlations between Language IQ and Reading Comprehension and Reading Vocabulary are .50 and .71 respectively. Correlations between Language IQ and Arithmetic Reasoning and Arithmetic Fundamentals are .46 and .51. These data are presented in Table VI. Data for schools (Avondale, Orchard Knob) with grade 6.2, CTMM Level 2, and CAT Level -JH, show correlations for these variables of .09, .25, -.09, and .09 respectively and are presented in Table VII.

For schools (East Fifth Street) grade level 7.1, CTMM Level -3, and CAT Level -Elm, correlations between Language IQ and Reading Comprehension and Vocabulary are .56 and .56. Correlations for Arithmetic Reasoning and Fundamentals are .50 and .56. These data are presented in Table VIII. For those schools

(East Fifth Street, Brainerd Jr. High, Elbert Long) with grade level 7.1, CTMM Level 3, and CAT Level 2, correlations for the four variables are .84, .82, .73, and .68. These data are found in Table IX.

East Fifth Street Analyses

When scores for students enrolled in the seventh grade at East Fifth Street School were examined, these results were found. The correlation between Language IQ (Grade 7.1, CTMM Level -3, and CAT Level -JH) and Reading Comprehension is .86. The correlation between this IQ measure and Reading Vocabulary is .83. Correlations of Arithmetic Reasoning and Arithmetic Fundamentals are .66, .66, .54, and .41 respectively when computed for Grade 7.1, CTMM Level -3, and CAT Level -Elm. These data are found in Table X and Table XI.

Summary

Since it was expected that high positive correlations would exist between measures of Language IQ and Reading Comprehension, various combinations of Chattanooga Public School units were examined. The categorizations included the Special East Fifth Street Group and others based on grade level and the levels of the California Test of Mental Maturity and the California Achievement Test.

Looking at the key correlations between Language IQ and Reading Comprehension, one sees that the theory of a high positive correlation holds for all groups except those of the forty sample youngsters from East Fifth Street School and grade 6.2 represented by pupil scores from Avondale and Orchard Knob. When Language IQ is correlated with Arithmetic Reasoning, it is found that the theory of a high positive correlation holds except for the forty special pupils and grade 6.2 pupil scores at Avondale and Orchard Knob Schools. The general correlation is not as high for these variables, but it is offered since the achievement test represents a crude measure of reading ability.

Data from the East Fifth Street School, examined as two self-contained units, fail to show differences from the samples selected from other schools. The expected high positive correlations between Language IQ and Reading Comprehension, Reading Vocabulary, Arithmetic Reasoning, and Arithmetic Fundamentals are produced by these data. The lowest correlations in this group are between Language IQ and Arithmetic Fundamentals.

TABLE I
CORRELATIONS BETWEEN
SELECTED INTELLIGENCE AND
ACHIEVEMENT VARIABLES
SPECIAL STUDY PARTICIPANTS

Variables									
1. Language IQ	1.00	.37	.80	.19	-.20	-.14	.02	.10	-.06
2. Non-Language IQ		1.00	.85	.05	-.06	-.19	-.02	-.14	.00
3. Total IQ			1.00	.15	-.16	-.19	.01	-.01	.00
4. Read Voc.				1.00	.67	.64	.64	.59	.60
5. Read Comp.					1.00	.63	.54	.64	.79
6. Arith. Reas.						1.00	.53	.60	.46
7. Arith. Fund.							1.00	.33	.29
8. Mech. of English								1.00	.53
9. Spelling									1.00

Note: Correlations were computed for each pair of variables using persons with complete data for those two variables. Therefore, the sample size will vary between correlations.

TABLE II
CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT WOODMORE, NORMAL
PARK, CEDAR HILL, AND HOWARD CATEGORIZED "GRADE 5.1,
CTMM LEVEL - 2 AND CAT LEVEL - ELM."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.*	1.00	.92	.91	.97	.89	.99	.90	.95	.89	.95	.68	.94	.88	.96	.69	.85
2. Lang. IQ		1.00	.79	.96	.84	.91	.85	.88	.81	.88	.62	.86	.87	.89	.70	.78
3. Non-Lang. IQ			1.00	.92	.78	.91	.81	.82	.81	.83	.61	.90	.78	.84	.64	.70
4. Total IQ				1.00	.87	.96	.88	.90	.85	.91	.64	.93	.88	.92	.71	.80
5. Read Voc. OGP					1.00	.89	.84	.84	.84	.84	.54	.84	.81	.85	.68	.74
6. Read Voc. AAGP						1.00	.88	.89	.87	.90	.68	.98	.86	.91	.67	.75
7. Read Comp. OGP							1.00	.89	.84	.89	.65	.81	.91	.90	.76	.82
8. Read Comp. AAGP								1.00	.85	.99	.62	.78	.86	.99	.68	.97
9. Arith. Reas. OGP									1.00	.85	.71	.83	.83	.86	.72	.76
10. Arith. Reas. AAGP										1.00	.62	.80	.86	.99	.68	.97
11. Arith. Fund. OGP											1.00	.66	.66	.64	.50	.53
12. Arith. Fund. AAGP												1.00	.80	.82	.62	.62
13. Mech. of Eng. OGP													1.00	.87	.81	.78
14. Mech. of Eng. AAGP														1.00	.69	.96
15. Spelling OGP															1.00	.62
16. Spelling AAGP																1.00

*Intellectual Status Index

TABLE III

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT AVONDALE AND
ORCHARD KNOB CATEGORIZED "GRADE 5.2,
CTMM LEVEL - 2 AND CAT LEVEL - ELM."

December, 1968, Meeting
Appendix, Page 11

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.78	.90	.92	.80	.99	.82	.99	.65	.99	.50	.99	.68	.98	.42	.99
2. Lang. IQ		1.00	.65	.92	.66	.79	.62	.79	.55	.79	.39	.79	.57	.78	.48	.78
3. Non-Lang. IQ			1.00	.90	.58	.90	.59	.89	.53	.89	.44	.89	.56	.89	.32	.90
4. Total IQ				1.00	.72	.93	.71	.93	.62	.93	.48	.93	.64	.92	.45	.92
5. Read Voc. OGP					1.00	.81	.71	.80	.70	.81	.49	.80	.59	.77	.34	.81
6. Read Voc. AAGP						1.00	.82	.99	.65	.99	.50	.99	.68	.99	.40	.99
7. Read Comp. OGP							1.00	.82	.63	.83	.41	.81	.79	.80	.49	.82
8. Read Comp. AAGP								1.00	.66	.99	.50	.99	.69	.99	.42	.99
9. Arith. Reas. OGP									1.00	.66	.63	.66	.64	.64	.42	.64
10. Arith. Reas. AAGP										1.00	.50	.99	.68	.98	.42	.99
11. Arith. Fund. OGP											1.00	.50	.38	.49	.35	.50
12. Arith. Fund. AAGP												1.00	.68	.98	.43	.99
13. Mech. of Eng. OGP													1.00	.70	.44	.68
14. Mech. of Eng. AAGP														1.00	.34	.98
15. Spelling OGP															1.00	.42
16. Spelling AAGP																1.00

TABLE IV

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT WOODMORE, NORMAL
PARK, HOWARD, TROTTER AND CEDAR HILL CATEGORIZED
"GRADE 6.1, CTMM LEVEL - 2, CAT LEVEL - ELM."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.96	.94	.99	.92	.99	.90	.99	.85	.99	.82	.99	.89	.99	.82	.99
2. Lang. IQ		1.00	.87	.98	.91	.96	.88	.96	.80	.96	.77	.96	.88	.96	.78	.96
3. Non-Lang. IQ			1.00	.96	.82	.94	.83	.94	.79	.94	.75	.94	.79	.94	.78	.94
4. Total IQ				1.00	.90	.98	.89	.98	.82	.98	.79	.98	.87	.98	.81	.98
5. Read Voc. OGP					1.00	.92	.87	.92	.83	.92	.82	.92	.86	.92	.79	.92
6. Read Voc. AAGP						1.00	.90	.99	.85	.99	.82	.99	.88	.99	.81	.99
7. Read Comp. OGP							1.00	.90	.82	.90	.83	.91	.87	.90	.82	.90
8. Read Comp. AAGP								1.00	.85	.99	.83	.99	.89	.99	.82	.99
9. Arith. Reas. OGP									1.00	.85	.81	.84	.79	.85	.75	.85
10. Arith. Reas. AAGP										1.00	.83	.99	.89	.99	.82	.99
11. Arith. Fund. OGP											1.00	.82	.76	.83	.79	.82
12. Arith. Fund. AAGP												1.00	.89	.99	.82	.99
13. Mech. of Eng. OGP													1.00	.99	.85	.89
14. Mech. of Eng. AAGP														1.00	.82	.99
15. Spelling OGP															1.00	.81
16. Spelling AAGP																1.00

TABLE V

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT TROTTER AND
CEDAR HILL CATEGORIZED "GRADE 6.1,
CTMM LEVEL - 2 AND CAT LEVEL - JH."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.97	.92	.98	.60	.99	.76	1.00	.63	.99	.31	.99	.65	.99	.72	.99
2. Lang. IQ		1.00	.86	.98	.78	.96	.77	.97	.50	.96	-.07	.96	.59	.96	.56	.96
3. Non-Lang. IQ			1.00	.95	.15	.92	.47	.92	.66	.92	.68	.92	.18	.92	.37	.92
4. Total IQ				1.00	.60	.98	.74	.98	.68	.98	.32	.98	.49	.98	.57	.98
5. Read Voc. OGP					1.00	.59	.68	.60	.57	.60	-.06	.58	.71	.59	.71	.61
6. Read Voc. AAGP						1.00	.75	.99	.63	.99	.33	.99	.66	1.00	.72	.99
7. Read Comp. OGP							1.00	.76	.60	.75	.17	.76	.36	.75	.81	.76
8. Read Comp. AAGP								1.00	.63	.99	.31	.99	.65	.99	.72	.99
9. Arith. Reas. OGP									1.00	.63	.72	.65	.34	.63	.74	.62
10. Arith. Reas. AAGP										1.00	.31	.99	.65	.99	.72	.99
11. Arith. Fund. OGP											1.00	.35	-.04	.33	.39	.30
12. Arith. Fund. AAGP												1.00	.63	.99	.73	.99
13. Mech. of Eng. OGP													1.00	.66	.58	.67
14. Mech. of Eng. AAGP														1.00	.72	.99
15. Spelling OGP															1.00	.73
16. Spelling AAGP																1.00

December, 1968, Meeting
Appendix, Page 13

TABLE VI

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT AVONDALE AND
ORCHARD KNOB CATEGORIZED "GRADE 6.2,
CTMM LEVEL - 2, CAT LEVEL - ELM."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.88	.88	.97	.64	.99	.57	.99	.60	.99	.63	.99	.62	.99	.48	.99
2. Lang. IQ		1.00	.68	.92	.71	.88	.50	.87	.46	.88	.51	.88	.60	.88	.52	.88
3. Non-Lang. IQ			1.00	.91	.50	.89	.45	.88	.52	.88	.59	.88	.49	.88	.37	.88
4. Total IQ				1.00	.66	.97	.52	.97	.54	.96	.61	.97	.60	.97	.49	.96
5. Read Voc. OGP					1.00	.64	.73	.64	.50	.63	.56	.62	.67	.64	.70	.64
6. Read Voc. AAGP						1.00	.57	.99	.60	.99	.63	.99	.63	.99	.49	.99
7. Read Comp. OGP							1.00	.57	.71	.56	.63	.56	.78	.56	.74	.57
8. Read Comp. AAGP								1.00	.60	.99	.63	.99	.63	.99	.48	.99
9. Arith. Reas. OGP									1.00	.59	.67	.60	.49	.59	.52	.58
10. Arith. Reas. AAGP										1.00	.62	.99	.62	.99	.47	.99
11. Arith. Fund. OGP											1.00	.62	.52	.63	.47	.62
12. Arith. Fund. AAGP												1.00	.62	.99	.48	.99
13. Mech. of Eng. OGP													1.00	.62	.61	.62
14. Mech. of Eng. AAGP														1.00	.48	.99
15. Spelling OGP															1.00	.99
16. Spelling AAGP																1.00

TABLE VII

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT AVONDALE AND
ORCHARD KNOB CATEGORIZED "GRADE 6.2,
CTMM LEVEL - 2, CAT LEVEL - JH."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.93	.89	.99	.15	.99	.29	.99	-.07	.99	.28	.99	.38	.99	.26	.99
2. Lang. IQ		1.00	.69	.92	.25	.93	.09	.93	-.09	.93	.09	.93	.12	.93	.05	.93
3. Non-Lang. IQ			1.00	.92	.05	.88	.32	.89	.01	.89	.45	.88	.52	.88	.34	.88
4. Total IQ				1.00	.19	.99	.26	.99	-.04	.99	.35	.99	.41	.99	.25	.99
5. Read Voc. OGP					1.00	.14	.43	.15	.50	.13	.46	.13	.39	.14	.24	.16
6. Read Voc. AAGP						1.00	.30	.99	-.08	.99	.27	.99	.38	1.00	.28	.99
7. Read Comp. OGP							1.00	.29	.56	.29	.52	.29	.42	.30	.19	.29
8. Read Comp. AAGP								1.00	-.07	.99	.28	.99	.38	.99	.26	.99
9. Arith. Reas. OGP									1.00	.08	.53	-.08	.11	-.08	-.03	-.09
10. Arith. Reas. AAGP										1.00	.28	.99	.39	.99	.28	.99
11. Arith. Fund. OGP											1.00	.27	.44	.27	-.02	.27
12. Arith. Fund. AAGP												1.00	.40	.99	.27	.99
13. Mech. of Eng. OGP													1.00	.38	.51	.39
14. Mech. of Eng. AAGP														1.00	.28	.99
15. Spelling OGP															1.00	.25
16. Spelling AAGP																1.00

TABLE VIII
CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT EAST FIFTH STREET
CATEGORIZED "GRADE 7.1, CTMM LEVEL - 3
AND CAT LEVEL - ELM."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.72	.85	.89	.69	---	.72	---	.64	---	.71	---	.68	---	.56	---
2. Lang. IQ		1.00	.62	.90	.56	---	.56	---	.50	---	.56	---	.66	---	.57	---
3. Non-Lang. IQ			1.00	.90	.42	---	.58	---	.44	---	.49	---	.46	---	.27	---
4. Total IQ				1.00	.57	---	.65	---	.54	---	.60	---	.64	---	.48	---
5. Read Voc. OGP					1.00	---	.73	---	.67	---	.70	---	.74	---	.64	---
6. Read Voc. AAGP						1.00	---	---	---	---	---	---	---	---	---	---
7. Read Comp. OGP							1.00	---	.70	---	.78	---	.78	---	.66	---
8. Read Comp. AAGP								1.00	---	---	---	---	---	---	---	---
9. Arith. Reas. OGP									1.00	---	.78	---	.65	---	.61	---
10. Arith. Reas. AAGP										1.00	---	---	---	---	---	---
11. Arith. Fund. OGP											1.00	---	.74	---	.61	---
12. Arith. Fund. AAGP												1.00	---	---	---	---
13. Mech. of Eng. OGP													1.00	---	.68	---
14. Mech. of Eng. AAGP														1.00	---	---
15. Spelling OGP															1.00	---
16. Spelling AAGP																1.00

TABLE IX

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT EAST FIFTH STREET,
BRAINERD JR. HIGH AND ELBERT LONG CATEGORIZED "GRADE 7.1,
CTMM LEVEL - 3 AND CAT LEVEL - JH."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.90	.88	.98	.78	.99	.81	.99	.76	.99	.69	.99	.72	.99	.57	.99
2. Lang. IQ		1.00	.67	.93	.82	.90	.84	.90	.73	.90	.68	.90	.70	.90	.66	.90
3. Non-Lang. IQ			1.00	.89	.61	.88	.62	.88	.67	.88	.56	.88	.62	.87	.44	.88
4. Total IQ				1.00	.79	.98	.82	.98	.78	.98	.69	.98	.73	.97	.62	.98
5. Read Voc. OGP					1.00	.77	.80	.78	.56	.78	.53	.78	.70	.78	.63	.78
6. Read Voc. AAGP						1.00	.81	.99	.76	.99	.68	.99	.71	.99	.57	.99
7. Read Comp. OGP							1.00	.81	.81	.81	.76	.81	.79	.82	.69	.81
8. Read Comp. AAGP								1.00	.77	.99	.69	.99	.72	.99	.57	.99
9. Arith. Reas. OGP									1.00	.76	.81	.76	.65	.77	.55	.76
10. Arith. Reas. AAGP										1.00	.69	.99	.72	.99	.57	.99
11. Arith. Fund. OGP											1.00	.68	.68	.68	.55	.68
12. Arith. Fund. AAGP												1.00	.72	.99	.57	.99
13. Mech. of Eng. OGP													1.00	.72	.67	.71
14. Mech. of Eng. AAGP														1.00	.58	.99
15. Spelling OGP															1.00	.57
16. Spelling AAGP																1.00

TABLE X

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT EAST FIFTH STREET
CATEGORIZED "GRADE 7.1, CTMM LEVEL - 3,
AND CAT LEVEL - JH."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.88	.84	.96	.68	.99	.85	.99	.71	.99	.52	.99	.48	.99	.41	.99
2. Lang. IQ		1.00	.62	.90	.83	.88	.86	.88	.57	.87	.37	.88	.54	.88	.53	.88
3. Non-Lang. IQ			1.00	.90	.39	.84	.62	.84	.68	.85	.56	.83	.24	.84	.22	.35
4. Total IQ				1.00	.68	.96	.82	.96	.69	.96	.52	.96	.43	.96	.41	.96
5. Read Voc. OGP					1.00	.67	.84	.68	.40	.67	.28	.67	.63	.68	.74	.68
6. Read Voc. AAGP						1.00	.85	.99	.71	.99	.51	.99	.47	.99	.51	.99
7. Read Comp. OGP							1.00	.85	.72	.84	.60	.86	.62	.85	.41	.85
8. Read Comp. AAGP								1.00	.70	.99	.51	.99	.48	.99	.31	.99
9. Arith. Reas. OGP									1.00	.71	.88	.71	.55	.70	.42	.71
10. Arith. Reas. AAGP										1.00	.52	.99	.48	.99	.11	.99
11. Arith. Fund. OGP											1.00	.52	.50	.51	.40	.53
12. Arith. Fund. AAGP												1.00	.47	.99	.50	.99
13. Mech. of Eng. OGP													1.00	.48	.50	.49
14. Mech. of Eng. AAGP														1.00	.42	.99
15. Spelling OGP															1.00	.42
16. Spelling AAGP																1.00

TABLE XI

CORRELATIONS BETWEEN INTELLIGENCE AND ACHIEVEMENT
VARIABLES FOR SELECTED PUPILS AT EAST FIFTH STREET
CATEGORIZED "GRADE 7.1, CTMM LEVEL - 3
AND CAT LEVEL - ELM."

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. I.S.I.	1.00	.66	.85	.88	.64	---	.71	---	.62	---	.55	---	.67	---	.49	---
2. Lang. IQ		1.00	.56	.87	.66	---	.66	---	.54	---	.41	---	.66	---	.53	---
3. Non-Lang. IQ			1.00	.90	.38	---	.56	---	.46	---	.46	---	.49	---	.30	---
4. Total IQ				1.00	.61	---	.71	---	.58	---	.51	---	.67	---	.49	---
5. Read Voc. OGP					1.00	---	.76	---	.65	---	.43	---	.77	---	.65	---
6. Read Voc. AAGP						1.00	---	---	---	---	---	---	---	---	---	---
7. Read Comp. OGP							1.00	---	.75	---	.51	---	.78	---	.64	---
8. Read Comp. AAGP								1.00	---	---	---	---	---	---	---	---
9. Arith. Reas. OGP									1.00	---	.56	---	.66	---	.58	---
10. Arith. Reas. AAGP										1.00	---	---	---	---	---	---
11. Arith. Fund. OGP											1.00	---	.52	---	.43	---
12. Arith. Fund. AAGP												1.00	---	---	---	---
13. Mech. of Eng. OGP													1.00	---	.59	---
14. Mech. of Eng. AAGP														1.00	---	---
15. Spelling OGP															1.00	---
16. Spelling AAGP																1.00